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EVALUATION OF FREQUENCY DOUBLED ND-YAG VERSUS KRYPTON RED LASER FOR PHOTOCOAGULATION OF EXTRA FOVEAL AND JUXTA FOVEAL CHOROIDAL NEOVASCULARIZATION DUE TO AGE RELATED MACULOPATHY (A.M.D.)

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Purpose. Krypton laser photocoagulation has been demonstrated to be efficient in the treatment of juxtafoveal well-defined choroidal new vessels in AMD. The efficacy of two different wavelengths frequency doubled Nd-Yag Laser (FDYL) and krypton red (KR) was compared in the treatment of extrafoveal and juxtafoveal well-defined choroidal neovascularization (CNV) secondary to A.M.D.
Methods. 38 eyes were randomly assigned to frequency doubled Yag (18 eyes) or krypton red laser (20 eyes). The judgment criteria were the followings : 1) persistence or recurrence rate at 1 month after laser treatment, 2) final visual acuity, 3) CNV size (< 1/4 DD ; 1/4-1/2DD ; > 1/2 DD) and 4) location to the fovea (< 50 µ ; 50-400 µ ; > 400 µ).
Results. The rate of persistence or recurrence was comparable between FDYL (33,3%) and krypton (30%) groups ($p < 0.5$).

	No persistent C.N.V.		
Changes in 1 month	>2 lines	stable	< 2 lines
FYD Laser	18%	36%	45%
Krypton Laser	12%	35%	42%

FDYL was more likely to achieve successfull treatment for juxtafoveal membrane than krypton and krypton treatment for small membrane as compared to FDYL.
Conclusion. Our pilot study suggests that FDYL is as efficient as krypton laser for extrafoveal and juxtafoveal CNV photocoagulation in AMD. No striking difference between FDYL and krypton was apparent. Further studies with long term follow-up are necessary to substantiate the findings of this preliminary study.

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SUBRETINAL CHOROIDAL NEOVASCULAR MEMBRANES IN HEREDITARY MACULAR DISEASES: A FLUORESCEIN ANGIOGRAPHY AND ICGV STUDY.

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Purpose: To show the uncommon association of hereditary macular dystrophies and central choroidal neovascularization (CNV) as a possible complication with a generally relatively benign course.
Methods: We found seven patients affected with different hereditary dystrophies (Stargardt's disease, Best's disease, reticular dystrophy, butterfly-shaped dystrophy, gyrate atrophy), who developed with time subretinal CNV. All patients received complete ophthalmic evaluation, electrophysiology, colour vision testing, and fluorescein angiography. In some patients, ICGV was also performed. No laser treatment was performed in any patient.
Results: The neovascular net, either for its eccentricity or for the spontaneous fibrotic evolution, showed a relatively benign course in patients with Stargardt's disease, Best's disease, and reticular dystrophy. Differently, a central and aggressive evolution occurred in the butterfly-shaped dystrophy. In two patients with gyrate atrophy the association of central CNV and the continuous progression of the disease led to a severe decrease of the visual acuity.
Conclusions: Despite a rare occurrence, the subretinal ingrowth of CNV can lead to a further loss of visual acuity in patients affected with hereditary dystrophies. Sometimes, a relatively benign course is likely. ICGV may be useful in the study of these inherited disorders, but further investigations are necessary to better understand the ICG patterns.

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TITLE: THE ULTRASTRUCTURE AND IMMUNOHISTOCHEMICAL APPEARANCE IN SUBRETINAL NEOVASCULAR MEMBRANE (SRNVM)

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Purpose To determine the pathologic and immunohistochemical features of excised SRNVM.
Methods Three cases of excised SRNVM were examined with transmissional electromicroscope and 1 case of SRNVM was observed using labelled streptaxidin biotin method (LSAB) for S-100 protein(S-100), leukocyte-common antigen (LCA), fibronectin (FN) , etc.
Results The SRNVM was composed of capillaries, fibrin, macrophages and chronic inflammatory cells. The macrophages had polygonal irregular shape, abundant cytoplasm and large nucleus. Immunohistochemical appearance included the positive staining of S-100, LCA, and FN, etc.It meant that the SRNVM included glial cells, photoreceptors and chronic inflammatory cells.
Conclusion This study showed the SRNVM is a fibrovascular membrane. Its pathologic process is a chronic inflammatory, granulomatous reaction.

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IMMUNOELECTRON MICROSCOPIC EVALUATION OF THE MICROVASCULATURE IN SUBRETINAL NEOVASCULAR MEMBRANES

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Purpose
Immunoelectron microscopic investigation of the microvasculature in surgically removed subretinal neovascular membranes (SNVM) in order to visualize microvascular changes.
Methods
Surgical specimens obtained from 11 patients with a SNVM were subdivided and via a preembedding technique processed for immunoelectron microscopy. The following monoclonal antibodies were used to visualize the vascular structures: EN-4 and QBEND/10 recognizing endothelial cells, anti-alpha smooth muscle actin (anti-αSM) and anti-high molecular weight melanoma associated antigen (anti-HMW-MAA) recognizing pericytes. Furthermore, the polyclonal antibody anti-collagen IV was used to detect basement membranes.
Results
The SNVM often showed a fibrotic center, surrounded by pigmented cells. Vessels seemed to spread from the center towards the periphery. In many cases parts of Bruch's membrane were included in the membrane. QBEND/10 showed endothelial sprouts into the extracellular matrix; by anti-HMW-MAA staining of pericytes, endothelial protrusion in these cells was accentuated. Anti-collagen IV only stained a basement membrane in one SNVM. EN-4 consistently stained endothelial cells; anti-αSM however, occasionally stained whole pericytes positive.
Conclusions
The endothelial sprouting demonstrated by immunoelectron microscopy in SNVM is compatible with an active angiogenesis, in which both endothelial cells and pericytes participate.